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MSDS-MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCTS AND COMPANY IDENTIFICATION

Synonyms/Common Names: Iron, Iron Granules, Blast Grit

Manufacturer's Names: Evergreen Recycling, Inc.
P.O. Box 3971
Seattle, WA 98124-3971

Emergency Telephone Number: 206-932-8838
206-932-6175 (fax)

Date Prepared: September 21, 2001

SECTION 2 - COMPOSITION/INFORMATION, INGREDIENTS

Ingredients:

	Chemical Formula	Typical %, by Weight	CAS #
Crystalline Silica (quartz)	SiO ₂	40 - 50%	14808-60-7
Iron Oxide	Fe ₂ O ₃	20 - 30%	13918-37-1
Calcium Oxide as Calcium Silicate & Calcium Aluminatc	CaO	14-20%	12168-85-3 10034-77-2 12042-68-1
Alumina Oxide	Al ₂ O ₃	4 - 8%	1344-28-1

SECTION 3 - HAZARD IDENTIFICATION

EMERGENCY OVERVIEW:

The Evergreen Recycling, Inc. material is a black granular material. It is not flammable, combustible or explosive. This product is relatively non-toxic and does not pose an immediate hazard to the health of emergency response personnel or to the environment in an emergency situation. It does not cause burns or severe skin or eye irritation. A single exposure will not result in serious adverse health effects. Crystalline silica (quartz) is not known to be an environmental hazard.

A component of iron grit, crystalline silica (quartz), is incompatible with hydrofluoric acid, fluorine, and chlorine trifluoride or oxygen difluoride.

POTENTIAL HEALTH EFFECTS:

Inhalation:

- a. Silicosis A component of iron grit, Crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis may be progressive; it may lead to disability and death.
- b. Cancer A component of iron grit, Crystalline silica (quartz), inhaled from occupational sources is classified as carcinogenic to humans
- c. Autoimmune Disease There are some studies that show excess numbers of cases of scleroderma and other connective tissue disorders on workers exposed to respirable crystalline silica.
- d. Tuberculosis Silicosis increases the risk of tuberculosis.
- e. Nephrotoxicity Some studies show an increased incidence of chronic kidney diseases and end-stage renal disease in workers exposed to respirable crystalline silica.

Eye Contact: A component of iron grit, crystalline silica (quartz), may cause abrasion of the cornea

Skin Contact: Not applicable

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Ingestion: Not applicable

Chronic Effects: The adverse health effects of crystalline silica, a component of iron grit– silicosis, cancer, autoimmune diseases, tuberculosis, and nephrotoxicity – are chronic effects.

Signs and Symptoms of Exposure: Generally, there are no signs or symptoms of exposure to crystalline silica (quartz).

Medical Conditions Generally Aggravated by Exposure: The condition of individuals with lung disease (e.g., bronchitis, emphysema, chronic obstructive pulmonary disease) can be aggravated by exposure.

See section 10, Toxicological information, for additional detail on potential adverse health effects.

SECTION 4 – FIRST AID MEASURES

Inhalation: No specific first aid is necessary since the adverse health effects associated with exposure to crystalline silica (quartz) result from chronic exposures. If there is a gross inhalation of crystalline silica (quartz), remove the person immediately to fresh air, give artificial respiration as needed, seek medical attention as needed.

Eye Contact: Wash immediately with water. If irritation persists, seek medical attention.

Skin Contact: Not applicable.

Ingestion: Not applicable.

SECTION 5 – FIRE FIGHTING MEASURES

Iron Grit is not flammable, combustible or explosive. Use any means of extinction appropriate for surrounding fire conditions such as water spray, carbon dioxide, dry chemical, or foam.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Spills: Whatever material can not be recycled/reused, sweep and place into closable container for disposal, or flush with water.

SECTION 7 – HANDLING AND STORAGE

Precautions during Handling and Use: Do not breathe dust. Use adequate ventilation and dust collection. Keep airborne dust concentrations below PEL. Do not rely on your sight to determine if the dust is in the air. Silica may be in the air without visible dust cloud. If dust cannot be kept below permissible limits, wear a respirator approved for silica dust when using, handling, storing or disposing of this product or bag. Practice good housekeeping. Do not permit dust to collect on walls, floors, sills, ledges, machinery, or equipment. Maintain, clean, and fit test respirators in accordance with OSHA regulations. Maintain and test ventilation and dust collection equipment. Wash or vacuum clothing that has become dusty.

Precautions during Storage: None

See also American Society for Testing and Materials (ASTM) standard practice E 1132-99a, "Standard Practice for Health Requirements Relating to Occupational Exposure to Respirable Crystalline Silica."

SECTION 8 – PHYSICAL AND CHEMICAL PROPERTIES

<u>Appearance:</u>	Black granules	<u>Physical State:</u>	Solid
<u>Boiling Point:</u>	No data	<u>Odor:</u>	None
<u>Vapor Pressure (mm Hg.):</u>	N/A	<u>Specific Gravity (Water =1):</u>	Approx. 5.0
<u>Vapor Density (Air=1):</u>	N/A	<u>Melting Point:</u>	1150°C
<u>Solubility in Water:</u>	Insoluble in water	<u>Evaporation Rate (Butyl Acetate=1):</u>	N/A

SECTION 9 – STABILITY AND REACTIVITY

Stability: Iron Grit is stable.

Incompatibility (Materials to Avoid): Contact with powerful oxidizing agents, such as fluorine, chlorine trifluoride and oxygen difluoride, may cause fires.

Hazardous Decomposition or Byproducts: Silica in iron grit will dissolve in hydrofluoric acid and produce a corrosive gas-silicon tetrafluoride.

Hazardous Polymerization: Will not occur.

SECTION 10 – TOXICOLOGICAL INFORMATION

A. SILICOSIS

The major concern is silicosis, caused by the inhalation and retention of respirable crystalline silica dust. Crystalline Silica is a component of iron grit. Silicosis can exist in several forms, chronic (or ordinary), accelerated, or acute.

Chronic or Ordinary Silicosis (often referred to as Simple Silicosis) is the most common form of silicosis, and can occur after many years of exposure to relatively low levels of airborne respirable crystalline silica dust. It is further defined as either simple or complicated silicosis.

Simple silicosis is characterized by lung lesions (shown as radiographic opacities) less than 1 centimeter on diameter, primarily in the upper lung zones. Often, simple silicosis is not associated with symptoms, detectable changes in lung function or disability.

Simple silicosis may be progressive and may develop into complicated silicosis or progressive massive fibrosis (PMF). Complicated silicosis or PMF is characterized by lung lesions (shown as radiographic opacities) greater than 1 centimeter in diameter. Although there may be no symptoms associated with complicated silicosis or PMF, the symptoms, if present, are shortness of breathe, wheezing, cough and sputum production. Complicated silicosis or PMF may be associated with decreased lung function and may be disabling. Advanced complicated silicosis or PMF may lead to death. Advanced complicated silicosis or PMF can result in heart disease secondary to the lung disease (cor pulmonale).

Accelerated Silicosis can occur with exposure to high concentrations of respirable crystalline silica over a relatively short period; the lung lesions can appear within five (5) years of the initial exposure. The progression can be rapid. Accelerated silicosis is similar to chronic or ordinary silicosis, except that the lung lesions appear earlier and the progression is more rapid.

Acute Silicosis can occur with exposures to very high concentrations of respirable crystalline silica over a very short time period, sometimes as short as a few months. The symptoms of acute silicosis include progressive shortness of breath, fever, cough and weight loss. Acute silicosis is fatal.

SECTION 11 – TRANSPORT/REGULATORY INFORMATION

Proper Shipping Name:
Transport Canada Classification:
US DOT Hazard Classification:
Transport Canada Product ID Number
US DOT Product Identification Number
Marine Pollutant
IMO Classification

Material Not Regulated
Not Applicable
Not Applicable
Not Applicable
Not Applicable
No
Not Applicable